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09/981,288	10/18/2001	Sung-wook Park	1293.1282	5004

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EXAMINER

TOPGYAL, GELEK W

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/981,288	Applicant(s) PARK ET AL.	
	Examiner Gelek Topgyal	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/18/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. **Claims 1-7, 9, 11, 13-24 and 47** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 10-12 of copending Application No. 10/986,133. Although the conflicting claims are not identical, they are not patentably distinct from each other because

Regarding claim 1 of this application, claim 1 of copending Application No. 10/986,133 recites a recording apparatus comprising: a recording unit arranged to record data on an information storage medium; and a control unit arranged to control the recording unit to: record main data in a bitstream on the information recording medium, the main data comprising audio data and/or video data; record sub data corresponding to the main data, in a bitstream on the information recording medium that is separate from the bitstream of the main data on the information recording medium; and record navigation information in a bitstream on the information recording medium that is separate from the bitstream of the main data and the bitstream of the sub data on the information recording medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data. It is noted that claim 1 of this application is broader than and encompass claim 1 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the recording apparatus claim 1 of copending Application No. 10/986,133 can use the storage medium as claimed.

Regarding claim 2 of this application, claim 2 of copending Application No. 10/986,133 recites the recording apparatus of claim 1, wherein: the control unit is further arranged to control the recording unit to record extra data, associated with the main data, in a bitstream on the information recording medium that is separate from the bitstream of the main data, the bitstream of the sub data, and the bitstream of the navigation information on the information recording medium; and the navigation

information further defines a relation between the main data and the extra data that enables the extra data to be reproduced in connection with the main data. It is noted that claim 2 of this application is broader than and encompass claim 2 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the recording apparatus claim 2 of copending Application No. 10/986,133 can use the storage medium as claimed.

Regarding claim 3 of this application, claim 3 of copending Application No. 10/986,133 recites the recording apparatus of claim 1, further comprising a digital interface arranged to: receive the main data and/or the sub data; and provide the received main data/and or the received sub data to the recording unit. It is noted that claim 3 of this application is broader than and encompass claim 3 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the recording apparatus claim 3 of copending Application No. 10/986,133 can use the storage medium as claimed.

Regarding claim 4 of this application, claim 4 of copending Application No. 10/986,133 recites the recording apparatus of claim 2, further comprising a digital interface arranged to: receive the main data, and/or the sub data, and/or the extra data; and provide the received main data, and/or the received sub data, and/or the received extra data to the recording unit. It is noted that claim 4 of this application is broader than and encompass claim 4 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the

recording apparatus claim 4 of copending Application No. 10/986,133 can use the storage medium as claimed.

Regarding claim 5 of this application, claim 1 of copending Application No. 10/986,133 recites a recording apparatus comprising: a recording unit arranged to record data on an information storage medium; and a control unit arranged to control the recording unit to: record main data in a bitstream on the information recording medium, the main data comprising audio data and/or video data; record sub data corresponding to the main data, in a bitstream on the information recording medium that is separate from the bitstream of the main data on the information recording medium; and record navigation information in a bitstream on the information recording medium that is separate from the bitstream of the main data and the bitstream of the sub data on the information recording medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data. It is noted that claim 5 of this application is broader than and encompass claim 1 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the recording apparatus claim 1 of copending Application No. 10/986,133 can be implemented by the method as claimed.

Claims 6-7 of this application are rejected for the same reasons as discussed in claims 2-3 of this application above, and furthermore it should be noted that the recording apparatus claims 2-3 of copending Application No. 10/986,133 can be implemented by the method as claimed.

Claims 9 and 11 of this application are rejected for the same reasons as discussed in claim 4 of this application above, and furthermore it should be noted that the recording apparatus claims 4 of copending Application No. 10/986,133 can be implemented by the method as claimed.

Regarding claim 13 of this application, claim 10 of copending Application No. 10/986,133 recites a reproducing apparatus comprising: a reading unit arranged to: read main data recorded in a bitstream, the main data comprising audio data and/or video data; read sub data, corresponding to the main data, recorded in a bitstream that is separate from the bitstream of the main data; read extra data, corresponding to the main data, recorded in a bitstream that is separate from the bitstream of the main data and the bitstream of the sub data; and read navigation information recorded in a bitstream that is separate from the bitstream of the main data, the bitstream of the sub data, and the bitstream of the extra data, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data; and defining a relation between the extra data and the main data that enables the extra data to be reproduced in connection with the main data; and a mixer arranged to mix the main data, the sub data, and the extra data read by the reading unit based on the navigation information read by the reading unit to obtain mixed main data, sub data, and extra data. It is noted that claim 13 of this application is broader than and encompass claim 10 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It

should be noted that the reproducing apparatus claim 10 of copending Application No. 10/986,133 can implement the method as claimed.

Regarding claim 14 of this application, claim 11 of copending Application No. 10/986,133 recites the reproducing apparatus of claim 10, further comprising a digital interface arranged to output the mixed main data, sub data, and extra data. It is noted that claim 14 of this application is broader than and encompass claim 11 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the reproducing apparatus claim 10 of copending Application No. 10/986,133 can implement the method as claimed.

Regarding claim 15 and 16 of this application, claim 12 of copending Application No. 10/986,133 recites the reproducing apparatus of claim 10, further comprising a decoder arranged to: decode the mixed main data, sub data, and extra data to obtain decoded mixed main data, sub data, and extra data; and output the decoded mixed main data, sub data, and extra data. It is noted that claim 15 of this application is broader than and encompass claim 12 of copending Application No. 10/986,133 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the reproducing apparatus claim 10 of copending Application No. 10/986,133 can implement the method as claimed.

Claims 17-20 and 21-24 of this application are rejected for the same reasons as discussed above in claims 13-16, respectively, of this application.

Claim 47 is rejected for the same reasons as discussed in claim 1 above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. **Claims 8, 10 and 12** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3 and 4 of copending Application No. 10/986,133 in view of Yamauchi et al. (US 6,088,507).

Regarding claims 8, 10 and 12 of this application, claims 3 and 4 of copending Application No. 10/986,133 teaches the limitations as discussed above, however fails to particularly teach wherein the received incoming data (main, sub or extra) is an analog form and is further encoded.

Yamauchi et al. teaches in col. 26, lines 16-30 teaches wherein the production method to create the optical disk is a personal computer or a workstation that temporarily stores the volume area data on a magnetic medium. Therefore, during production of an optical disk, a traditional workstation/PC can receive inputs from digital or from analog sources and encode the analog information so that it can be recorded on an optical disk.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to receive an analog signal and encode it so that the information can be stored on a digital medium, and therefore last longer with degradation.

This is a provisional obviousness-type double patenting rejection.

5. **Claims 1-7, 9, 11 and 47** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 11/432,391. Although the conflicting claims are not identical, they are not patentably distinct from each other because

Regarding claim 1 of this application, claim 1 of copending Application No. 11/432,391 recites an apparatus for recording data on a storage medium comprising: a recording unit arranged to record main data in a bitstream on the storage medium, the main data comprising audio data and/or video data; record sub data, corresponding to the main data, in a bitstream on the storage medium, the bitstream of the storage medium being separate from the bitstream of the main data; and record navigation information on the storage medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data; and a control unit arranged to generate the navigation information; and control the recording unit to record the main data, the sub data, and the navigation information; wherein: the navigation information is used to control reproduction of the main data and the sub data; the bitstream of the sub data does not comprise, playback time information for the sub data; and the navigation information comprises: identifiers to identify the bitstream of the main data and the bitstream of the sub data and playback time information for the sub data. It is noted that claim 1 of this application is broader than and encompass claim 1 of copending Application No. 11/432,391 and; therefore, obviousness-type double patenting rejection

is applied. It should be noted that the apparatus for recording claim 1 of copending Application No. 11/432,391 can use the storage medium as claimed.

Regarding claim 2 of this application, claim 2 of copending Application No. 11/432,391 recites the apparatus of claim 1, wherein the recording unit is further arranged to record extra data, corresponding to the main data, in a bitstream on the storage medium, the bitstream of the extra data being separate from the bitstream of the main data and the bitstream of the sub data; and wherein: the control unit is further arranged to control the recording unit to record the extra data; the navigation information further defines a relation between the main data and the extra data that enables the extra data to be reproduced in synchronization with the main data; the navigation information is further used to control reproduction of the extra data; the bitstream of the extra data does not comprise playback time information for the extra data; and the navigation information further comprises: an identifier to identify the bitstream of the extra data; and playback time information for the extra data. It is noted that claim 2 of this application is broader than and encompass claim 2 of copending Application No. 11/432,391 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the apparatus for recording claim 2 of copending Application No. 11/432,391 can use the storage medium as claimed.

Regarding claim 3 of this application, claim 3 of copending Application No. 11/432,391 recites the apparatus of claim 1, further comprising: an internal encoder arranged to receive the main data and encode the received main data, wherein the recording unit is further arranged to record the encoded main data in the bitstream on

the storage medium; and/or a digital interface arranged to receive the main data, wherein the recording unit is further arranged to record the received main data in the bitstream on the storage medium. It is noted that claim 3 of this application is broader than and encompass claim 3 of copending Application No. 11/432,391 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the apparatus for recording claim 3 of copending Application No. 11/432,391 can use the storage medium as claimed.

Regarding claim 4 of this application, claim 4 of copending Application No. 11/432,391 recites the apparatus of claim 2, further comprising: an internal encoder arranged to receive the sub data and/or the extra data and encode the received sub data and/or the received extra data, wherein the recording unit is further arranged to record the encoded sub data in the bitstream on the storage medium and/or the encoded extra data in the bitstream on the storage medium; and/or a digital interface arranged to receive the sub data and/or the extra data, wherein the recording unit is further arranged to record the received sub data in the bitstream on the storage medium and/or the received extra data in the bitstream on the storage medium. It is noted that claim 4 of this application is broader than and encompass claim 4 of copending Application No. 11/432,391 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the apparatus for recording claim 1 of copending Application No. 11/432,391 can use the storage medium as claimed.

Regarding claim 5 of this application, claim 1 of copending Application No. 11/432,391 recites an apparatus for recording data on a storage medium comprising: a

recording unit arranged to record main data in a bitstream on the storage medium, the main data comprising audio data and/or video data; record sub data, corresponding to the main data, in a bitstream on the storage medium, the bitstream of the storage medium being separate from the bitstream of the main data; and record navigation information on the storage medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data; and a control unit arranged to generate the navigation information; and control the recording unit to record the main data, the sub data, and the navigation information; wherein: the navigation information is used to control reproduction of the main data and the sub data; the bitstream of the sub data does not comprise, playback time information for the sub data; and the navigation information comprises: identifiers to identify the bitstream of the main data and the bitstream of the sub data and playback time information for the sub data. It is noted that claim 5 of this application is broader than and encompass claim 1 of copending Application No. 11/432,391 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the recording apparatus claim 1 of copending Application No. 11/432,391 can be implemented by the method as claimed.

Claims 6-7 of this application are rejected for the same reasons as discussed in claims 2-3 of this application above, and furthermore it should be noted that the recording apparatus claims 2-3 of copending Application No. 11/432,391 can be implemented by the method as claimed.

Claims 9 and 11 of this application are rejected for the same reasons as discussed in claim 4 of this application above, and furthermore it should be noted that the recording apparatus claims 4 of copending Application No. 11/432,391 can be implemented by the method as claimed.

Claim 47 is rejected for the same reasons as discussed in claim 1 above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. **Claims 8, 10 and 12-24** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3, 4 and 13 of copending Application No. 11/432,391 in view of Yamauchi et al. (US 6,088,507).

Regarding claims 8, 10 and 12 of this application, claims 3 and 4 of copending Application No. 11/432,391 teaches the limitations as discussed above, however fails to particularly teach wherein the received incoming data (main, sub or extra) is an analog form and is further encoded.

Yamauchi et al. teaches in col. 26, lines 16-30 teaches wherein the production method to create the optical disk is a personal computer or a workstation that temporarily stores the volume area data on a magnetic medium. Therefore, during production of an optical disk, a traditional workstation/PC can receive inputs from digital or from analog sources and encode the analog information so that it can be recorded on an optical disk.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to receive an analog signal and encode it so that the information can be stored on a digital medium, and therefore last longer with degradation.

Regarding claim 13-16 of this application, claim 13 of copending Application No. 11/432,391 recites an apparatus for recording data on a storage medium comprising: a recording unit arranged to record main data in a first area on the storage medium; record sub data, corresponding to the main data, in a second area on the storage medium; record extra data in a third area on the storage medium; and record navigation information in a fourth area on the storage medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data, and defining a relation between the main data and the extra data that enables the extra data to be reproduced in synchronization with the main data; and a control unit arranged to generate the navigation information; and control the recording unit to record the main data, the sub data, the extra data, and the navigation information; wherein: the navigation information is used to control reproduction of the main data, the sub data, and the extra data; the sub data recorded in the second area on the storage medium does not comprise playback time information for the sub data; the extra data recorded in the third area on the storage medium does not comprise playback time information for the extra data; and the navigation information recorded in the fourth area on the storage medium comprises: identifiers to identify the main data recorded in the first area on the storage

medium, the sub data recorded in the second area on the storage medium., and the extra data recorded in the third area on the storage medium; and playback time information for the sub data and the extra data. It should be noted that the apparatus for recording claim 13 of copending Application No. 11/432,391 creates an optical disc that can be implemented by the reproducing method as claimed.

Yamauchi et al. teaches mixing the read main data, the read sub data, and the read extra data based on navigation information in Figs. 22-26, which teaches that the stream of Fig. 3, as read out from the optical disk, which is in a sequential order (mixed), is output to the AV decoding unit 85 (meets claimed "digital interface") in Fig. 15 so that the main data, sub and extra data are reproduced in synchronization with each other.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to mix the main, sub and extra data so that the information stored separately maybe output in synchronization without any delay in reproduction time.

Claims 17-20 and 21-24 of this application are rejected for the same reasons as discussed above in claims 13-16, respectively, of this application.

This is a provisional obviousness-type double patenting rejection.

7. **Claims 1-7, 9, 11 and 47** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21-24 of

copending Application No. 11/431,657. Although the conflicting claims are not identical, they are not patentably distinct from each other because

Regarding claim 1 of this application, claim 21 of copending Application No. 11/431,657 recites a method of recording data on a storage medium comprising: recording main data in a bitstream on the storage medium, the main data comprising audio data and/or video data; recording sub data, corresponding to the main data, in a bitstream on the storage medium, the bitstream of the sub data being separate from the bitstream of the main data; and recording navigation information on the storage medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data; wherein: the navigation information is used to control reproduction of the main data and the sub data; the bitstream of the sub data does not comprise playback time information for the sub data; and the navigation information comprises: identifiers to identify the bitstream of the main data and the bitstream of the sub data; and playback time information for the sub data. It is noted that claim 1 of this application is broader than and encompass claim 21 of copending Application No. 11/431,657 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the method of recording claim 21 of copending Application No. 11/431,657 can use the storage medium as claimed.

Regarding claim 2 of this application, claim 22 of copending Application No. 11/431,657 recites the method of claim 21, further comprising recording extra data, corresponding to the main data, in a bitstream on the storage medium, the bitstream of

the extra data being separate from the bitstream of the main data and the bitstream of the sub data; wherein: the navigation information further defines a relation between the main data and the extra data that enables the extra data to be reproduced in synchronization with the main data; the navigation information is further used to control reproduction of the extra data; the bitstream of the extra data does not comprise playback time information for the extra data; and the navigation information further comprises: an identifier to identify the bitstream of the extra data; and playback time information for the extra data. It is noted that claim 2 of this application is broader than and encompass claim 22 of copending Application No. 11/431,657 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the method of recording claim 22 of copending Application No. 11/431,657 can use the storage medium as claimed.

Regarding claim 3 of this application, claim 23 of copending Application No. 11/431,657 recites the method of claim 22, wherein the recording of the sub data comprises: receiving the sub data, encoding the received sub data with an encoder, and recording the encoded sub data in the bitstream on the storage medium, or receiving the sub data through a digital interface, and recording the received sub data in the bitstream on the storage medium; and wherein the recording of the extra data comprises: receiving the extra data, encoding the received extra data with the encoder, and recording the encoded extra data in the bitstream on the storage medium, or receiving the extra data through the digital interface, and recording the received extra data in the bitstream on the storage medium. It is noted that claim 3 of this application is

broader than and encompass claim 23 of copending Application No. 11/431,657 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the method of recording claim 23 of copending Application No. 11/431,657 can use the storage medium as claimed.

Regarding claim 4 of this application, claim 24 of copending Application No. 11/431,657 recites the method of claim 21, wherein the recording of the main data comprises: receiving the main data, encoding the received main data with an encoder, and recording the encoded main data in the bitstream on the storage medium, or receiving the main data through a digital interface, and recording the received main data in the bitstream on the storage medium. It is noted that claim 4 of this application is broader than and encompass claim 24 of copending Application No. 11/431,657 and; therefore, obviousness-type double patenting rejection is applied. It should be noted that the method of recording claim 24 of copending Application No. 11/431,657 can use the storage medium as claimed.

Regarding claim 5 of this application, claim 21 of copending Application No. 11/431,657 recites a method of recording data on a storage medium comprising: recording main data in a bitstream on the storage medium, the main data comprising audio data and/or video data; recording sub data, corresponding to the main data, in a bitstream on the storage medium, the bitstream of the sub data being separate from the bitstream of the main data; and recording navigation information on the storage medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main

data; wherein: the navigation information is used to control reproduction of the main data and the sub data; the bitstream of the sub data does not comprise playback time information for the sub data; and the navigation information comprises: identifiers to identify the bitstream of the main data and the bitstream of the sub data; and playback time information for the sub data. It is noted that claim 5 of this application is broader than and encompass claim 21 of copending Application No. 11/431,657 and; therefore, obviousness-type double patenting rejection is applied.

Claims 6-7 of this application are rejected for the same reasons as discussed in claims 2-3 of this application above.

Claims 9 and 11 of this application are rejected for the same reasons as discussed in claim 4 of this application above.

Claim 47 is rejected for the same reasons as discussed in claim 1 above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. **Claims 8, 10, 12-24** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3, 4 and 31 of copending Application No. 11/431,657 in view of Yamauchi et al. (US 6,008,507).

Regarding claims 8, 10 and 12 of this application, claims 3 and 4 of copending Application No. 11/431,657 teaches the limitations as discussed above, however fails to particularly teach wherein the received incoming data (main, sub or extra) is an analog form and is further encoded.

Yamauchi et al. teaches in col. 26, lines 16-30 teaches wherein the production method to create the optical disk is a personal computer or a workstation that temporarily stores the volume area data on a magnetic medium. Therefore, during production of an optical disk, a traditional workstation/PC can receive inputs from digital or from analog sources and encode the analog information so that it can be recorded on an optical disk.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to receive an analog signal and encode it so that the information can be stored on a digital medium, and therefore last longer with degradation.

Regarding claims 13-16 of this application, claim 31 of copending Application No. 11/431,657 recites a method of recording data on a storage medium comprising: recording main data in a first area on the storage medium; recording sub data, corresponding to the main data, in a second area on the storage medium; recording extra data, corresponding to the main data, in a third area on the storage medium; and recording navigation information in a fourth area on the storage medium, the navigation information defining a relation between the main data and the sub data that enables the sub data to be reproduced in synchronization with the main data, and defining a relation between the main data and the extra data that enables the extra data to be reproduced in synchronization with the main data; wherein: the navigation information is used to control reproduction of the main data, the sub data, and the extra data; the sub data recorded in the second area on the storage medium does not comprise playback time

information for the sub data; the extra data recorded in the third area on the storage medium does not comprise playback time information for the extra data; and the navigation information recorded in the fourth area on the storage medium comprises: identifiers to identify the main data recorded in the first area on the storage medium, the sub data recorded in the second area on the storage medium, and the extra data recorded in the third area on the storage medium; and playback time information for the sub data and the extra data. It should be noted that the method of recording claim 31 of copending Application No. 11/431,657 creates an optical disc that can be implemented by the reproducing method as claimed.

Yamauchi et al. teaches mixing the read main data, the read sub data, and the read extra data based on navigation information in Figs. 22-26, which teaches that the stream of Fig. 3, as read out from the optical disk, which is in a sequential order (mixed), is output to the AV decoding unit 85 (meets claimed "digital interface") in Fig. 15 so that the main data, sub and extra data are reproduced in synchronization with each other.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to mix the main, sub and extra data so that the information stored separately maybe output in synchronization without any delay in reproduction time.

Claims 17-20 and 21-24 of this application are rejected for the same reasons as discussed above in claims 13-16, respectively, of this application.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation function." The New IEEE Standard Dictionary of Electrical and Electronic Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held statutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 1-4 and 47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 1-4 and 47 define a *data storage medium* embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the

descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently claimed *data storage medium* can range from a paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggest amending the claim to embody the program on “computer-readable medium” or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. **Claims 1-24 and 47** are rejected under 35 U.S.C. 102(e) as being anticipated by Yamauchi et al. (US 6,088,507).

Regarding claim 1, Yamauchi et al. teaches a data storage medium comprising:

main data including audio data and/or video data (Fig. 4A-4B, Elementary Streams 1 with Elementary Streams 2-4 as taught in col. 8, lines 44-54);

sub data recorded in a separate bitstream from the main data to be reproduced in synchronization with the main data by a reproducing apparatus (Fig. 4A-4B, Elementary Stream 5 (SUB-PICTURE Ach) as taught in col. 8, lines 55-60); and

navigation information (col. 14, lines 4-57 teaches of a PGC Information Management Table that stores a "SP CH Table" that is used to reproduce a particular Sub-picture channel in conjunction with the video playback as discussed in col. 13, lines 45-52) defining a relation required for the main data and the sub data to be output in synchronization with each other by the reproducing apparatus,

wherein the navigation information is generated by a recording apparatus (col. 26, lines 16-30 teaches wherein the production method to create the optical disk is a personal computer or a workstation. The navigation information has to be generated prior to recording, whether in a temporary folder for a software running on a computer or workstation, before it can be recorded onto an optical disk) when the main data and the sub data are recorded in different areas on the data storage medium , to define the relation required for the main data and the sub data for searching and content reproduction (as discussed above and further taught in Fig. 18, an Optical disc stores the audio/video information, sub picture data and management information in separate streams), and

wherein the navigation information comprises identifiers (col. 14, lines 4-57 teaches of sub-picture ID stored within the SP CH Table. Figs. 13-15, the PGC Information Management Table that stores the identifiers for both main audio/video data and the sub-stream data that is stored on the optical disc) to identify particular bitstreams of the main data and the sub data recorded in different areas on the data storage medium for searching and content reproduction, and playback time information (as discussed above in col. 14, lines 4-57, the sub picture channel is played in

synchronization with the main audio/video data) for the sub data corresponding to the main data.

Regarding claim 2, Yamauchi et al. teaches the claimed further comprising extra data (Fig. 4A-4B teaches of multiple sub picture streams. Therefore a second or third sub picture stream meets the claimed extra data) recorded in a separate bitstream from the main data and the sub data to be reproduced in connection with the main data by the reproducing apparatus, wherein the navigation information further defines a relation required for the main data and the extra data to be output in synchronization with each other by the reproducing apparatus (as discussed in claim 1 above with reference of the system's ability to reproduce a sub picture stream in synchronization with the main audio/video data), and further comprises playback time information (as discussed in claim 1 above) for the extra data corresponding to the main data, and wherein the main data, the sub data and the extra data are recorded simultaneously by alternation or in a predetermined sequential order in different areas on the data storage medium (Fig. 3-4A shows an order in which the main audio/video data and the multiple sub picture streams are sequential).

Regarding claim 3, Yamauchi et al. teaches the claimed wherein the main data are received and encoded by an internal encoder or are input through a digital interface and recorded on the data storage medium (col. 26, lines 16-30 teaches wherein the production method to create the optical disk is a personal computer or a workstation that temporarily stores the volume area data on a magnetic medium. Therefore, during production of an optical disk, a traditional workstation/PC can receive inputs from digital

or from analog sources and encode the analog information so that it can be recorded on an optical disk).

Regarding claim 4, Yamauchi et al. teaches the claimed wherein the sub data and/or the extra data are received and encoded by an internal encoder (as discussed in claim 3 above) or are input through the digital interface (as discussed in claim 3 above) and recorded on the data storage medium.

Claims 5-6 are rejected for the same reasons as discussed above in claims 1-2, respectively.

Claims 7-12 are rejected for the same reasons as discussed in claim 3 above. Furthermore, it is taught by Yamauchi et al. that the volume area data can be of recorded on a magnetic tape, which can be digital or an analog medium.

Reproducing method claim 13 and 16 are rejected for the same reasons as discussed in claim 1 and 2 above, and furthermore, Yamauchi et al. teaches in Figs. 22-26 of a method of reproducing a particular Video Title Set using the management information (as discussed above) to reproduce main audio/video data along with synchronized sub-picture data.

Regarding claims 14-15, Yamauchi et al. teaches wherein audio/video data and sub-picture data is decoded by a AV decoding unit 85 in Fig. 15.

Reproducing claims 17 and 20 are rejected for the same reasons as discussed in claims 1 and 2 above.

Claims 18 and 19 are rejected for the same reasons as discussed in claims 14-15 above, respectively.

Claims 21-24 are rejected for the same reasons as discussed above in claims 17-20, respectively. The sub-picture data is reproducible in synchronization with the main audio/video data, and further second or third sub-picture data is in turn synchronized with the first sub-picture data.

Claim 47 is rejected for the same reasons as discussed in claim 1 above, and furthermore, the PGC Information Management Table is recorded separately from the main audio/video data and the sub-picture data area.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gelek Topgyal whose telephone number is 571-272-8891. The examiner can normally be reached on 8:30am -5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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